The End of an Era

By Victor J. Proton, Senior Forecaster

July 21st 2011, 3:57am MDT brought an end to the Space Shuttle era for the United States. It also brought a change to the Space Flight Meteorology Group which has supported NASA's space efforts since the Mercury program back in the 1950s. The last forecast by the unit for space shuttle support was issued as always 90 minutes before landing by Lead forecaster Brian Hoeth, and assistants Mark Wiley and Doris Hood. For Doris this was her 110th Space Shuttle mission she supported at the Johnson Space Center.

The Space Flight Meteorology Group (SMG) is a small group of Meteorologists from the National Weather Service assigned to the Johnson Space Center to support manned space flight efforts of the National Aeronautics and Space Administration (NASA). I had the honor of working at SMG from May 2008 through May 2010 and supported several space shuttle missions.

Today SMG has been reduced to three Meteorologists and with the retirement of Doris Hood the unit will fall to two meteorologists to continue support of the International Space Station weather operations and support. The forecast unit at its peak during 2008 had 9 Meteorologists, administrative staff of two, and contract computer operations to support the space shuttle, and now defunct Constellation program development.

Why is weather important to "space" operations? Is a common question that is asked to me. Weather is a serious impact player for landing any space vehicle from an Apollo era capsule to the space shuttle. The Apollo era had sea landings where the entry capsule would parachute into the lower atmosphere and splash down into the Pacific Ocean. Plenty of effort in forecasting the weather is required even with a water landing. Weather elements would range from visibility to see the capsule and to launch the helicopters to retrieve the astronauts from the capsule, to wave height for the safety of the astronauts inside the capsule. During Space Shuttle Era the shuttle on re-entry is a glider aircraft and is extremely weather sensitive. The forecast of wind, precipitation, cloud cover and lightning at ultra-high resolution was required to insure the safety of the shuttle crew. SMG worked with the United States Air Force and other agencies for several years on new observational equipment for detecting lightning strikes, and the possibility of lightning strikes by measuring the "electrical" activity in the atmosphere that would lead up to a lightning strike. SMG also worked with international weather agencies to gain access to new data sets and satellite data from around the globe.

The future of SMG is uncertain with the future of manned space flight in the United States going through an evolution into a new era. This new era may return astronauts to the moon, a nearby asteroid, or even Mars. No matter the destination, SMG of the National Weather Service is expected to be there to support the launch and landing of space vehicles that NASA supports to insure the safety of the astronauts from the Earth elements which could complicate their missions.